Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An audio system comprising:

a post-processor arranged to alter successive fragments of a decoded audio signal to provide successive fragments of a post-processed audio signal, the successive fragments of the decoded audio signal having been produced by decoding successive fragments of a previously-encoded audio signal;

a distortion detector for determining a degree to which quantization noise introduced in encoding said successive fragments of said previously-encoded audio signal becomes audible due to said post-processing of said successive fragments of said decoded audio signal; and

a regulator arranged to control said post-processor according to said degree.

2. (Previously Presented) The audio system of claim 1, wherein the distortion detector further comprises:

a masking threshold generator arranged to provide an estimate of a masking threshold for said successive fragments of the post-processed audio signal; and

a noise level detector arranged to provide an estimate of a noise level for said successive fragments of said post-processed audio signal,

wherein said distortion detector determines said degree to which the quantization noise introduced in encoding said successive fragments of said previously-encoded audio signal becomes audible according to a degree to which said noise level exceeds said masking threshold for said successive fragments of said post-processed audio signal.

3. (Previously Presented) The audio system of claim 2 further comprising a decoder arranged to receive said successive fragments of said previously-encoded audio signal, to decode said successive fragments of said previously-encoded audio signal, and to produce said successive fragments of the decoded audio signal.

4. (Previously Presented) The audio system of claim 3 wherein said decoder produces stereo-encoded successive pairs of fragments of the decoded audio signal and said post-processor applies stereo-widening to said successive pairs of fragments of the decoded audio signal.

5. (Previously Presented) The audio system of claim 2 wherein said masking threshold generator comprises a psycho-acoustic modeling component arranged to transform said successive fragments of said post-processed audio signal into the frequency domain; and to derive said masking threshold therefrom.

6. (Previously Presented) The audio system of claim 2 wherein said masking threshold generator comprises a psycho-acoustic modeling component arranged to receive said successive fragments of said previously-encoded audio signal and to produce successive fragments of a modeled audio signal; to apply a same post-processing algorithm to said successive fragments of the modeled audio signal as said post-processor applies to the successive fragments of the decoded audio signal; to transform said successive post-processed fragments of the modeled audio signal into the frequency domain; and to derive said masking threshold from said post-processed fragments of the modeled audio signal.

7. (Currently Amended) The audio system of claim 2 further comprising an inverse decoder arranged to receive said successive fragments of the decoded audio signal and to provide therefrom indications of quantization levels employed in ~~encoding the successive fragments of~~ said previously-encoded audio signal.

8. (Currently Amended) The audio system of claim 2, where said noise level detector is arranged to determine quantization levels employed in ~~encoding the successive fragments of~~ said previously-encoded audio signal.

9. (Previously Presented) The audio system of claim 7, wherein said noise level detector is arranged to derive from said quantization levels successive distributions of noise level for said

successive fragments of the decoded audio signal, and to apply a same post-processing algorithm to said successive distributions of noise level as said post-processor provides to successive estimates of noise level for said successive fragments of said post-processed audio signal.

10. (Currently Amended) A method of processing an audio stream, the method comprising:

post-processing successive fragments of a decoded audio signal to provide successive fragments of a post-processed audio signal, the successive fragments of the decoded audio signal having been produced by decoding successive fragments of a previously-encoded audio signal;

determining a degree to which quantization noise introduced in encoding said successive fragments of the previously-encoded audio signal becomes audible due to said post-processing of said successive fragments of said decoded audio signal; and

regulating said post-processing step according to said degree.

11. (Previously Presented) The method of claim 10, wherein detecting a degree to which quantization noise introduced in encoding the successive fragments of audio signal becomes audible due to the post-processing comprises:

producing an estimate of a masking threshold for the successive fragments of the post-processed audio signal;

producing an estimate of a noise level for the successive fragments of the post-processed audio signal; and

determining the degree to which the quantization noise introduced in encoding the successive fragments of the previously-encoded audio signal becomes audible, according to a degree to which the noise level exceeds the masking threshold for the successive fragments of the post-processed audio signal.

12. (Previously Presented) The method of claim 11, further comprising:

receiving the successive fragments of the previously-encoded audio signal;

decoding the successive fragments of the previously-encoded audio signal; and

producing the successive fragments of the decoded audio signal.

13. (Previously Presented) The method of claim 12, wherein said decoding produces stereo-encoded successive pairs of fragments of the decoded audio signal, and wherein said post-processing comprises applying stereo-widening to the successive pairs of fragments of the decoded audio signal.

14. (Previously Presented) The method of claim 11, wherein producing the estimate of the masking threshold comprises psycho-acoustically modeling the successive fragments of the post-processed audio signal to transform the successive fragments of the post-processed audio signal into the frequency domain; and to derive the masking threshold therefrom.

15. (Previously Presented) The method of claim 11, wherein producing the estimate of the masking threshold comprises:

psycho-acoustically modeling the successive fragments of the previously-encoded audio signal to produce successive fragments of a modeled audio signal;

applying a same post-processing algorithm to the successive fragments of the modeled audio signal as said post-processing applies to the successive fragments of the decoded audio signal;

transforming the successive post-processed fragments of the modeled audio signal into the frequency domain; and

deriving the masking threshold from the post-processed fragments of the modeled audio signal.

16. (Currently Amended) The method of claim 11, further comprising:

applying the successive fragments of the decoded audio signal to an inverse decoder; and

providing from the inverse decoder indications of quantization levels employed in ~~encoding the successive fragments of~~ the previously-encoded audio signal.

17. (Previously Presented) The method of claim 11, in which said noise level estimation includes determining quantization levels employed in encoding the successive fragments of the previously-encoded audio signal.

18. (Previously Presented) The method of claim 17, in which said noise level estimation includes:

deriving from the quantization levels successive distributions of noise level for the successive fragments of the decoded audio signal, and

applying a same post-processing algorithm to the successive distributions of noise level as said post-processing provides to successive estimates of noise level for the successive fragments of the post-processed audio signal.